

PAPUODENDRON, A NEW GENUS OF ARBORESCENT
MALVACEAE FROM NEW GUINEA

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With one plate

IN JULY and August, 1944, accompanied by Dr. H. E. Dadswell, I spent six weeks in the Mandated Territory of New Guinea conducting a school in forest botany and wood technology for the Forest Survey Companies of the 1st Aust. C. R. E. New Guinea Forests. A number of specimens were collected, and after our departure this work was continued by officers of the survey companies. In many cases no collector's name accompanied the specimens, but all bore numbers preceded by the initials N. G. F. (New Guinea Forests).

It is strange that this new genus was discovered in country previously considered to be fairly well worked over. As attention was concentrated on the big trees, however, other novelties will no doubt be found in the collections. This paper is communicated to the Arnold Arboretum, as so much on Papuan botany of recent years has appeared in its Journal. All cited specimens except that of Clemens are deposited in the Queensland Herbarium, Brisbane; duplicates are in the herbarium of the Arnold Arboretum.

Papuodendron gen. nov.

Epicalyx late campanulatus prominenter 5-dentatus, extus uti calyx petala ovariumque dense lepidotus. Calyx campanulatus epicalyce duplo vel triplo longior, initio ut videtur clausus, denuum ad medium in lobos 5 ovatos margine saepe incurvos divisus. Petala 5 imbricata mox decidua. Stamina monadelphia; columna annulo pilorum petala aequante cincta; tubus brevis apice in filamenta ca. 20 divisus, filamentis tubo vix brevioribus, antheris anguste reniformibus rima longitudinali dehiscentibus. Ovarium sessile 5-loculare, loculis pauciovulatis, stylo in ramos 5 stigmatiferos diviso; stigmata majuscula carnosula suborbicularia. Capsula ovoidea, seminibus reniformibus pilis longis densis obsitis.

Arbor. Folia alterna, simplicia, petiolata, penninervia, utrinque lepidota. Flores pro familia parvi, ebracteolati, in paniculos (vel thyrsos) terminales et axillares dispositi.

Species 1 in Papua crescens.

Papuodendron lepidotum sp. nov.

Arbor magna ad 45 m. alta, trunco basin versus anteridifero, cortice griseo, longitudinaliter sulcato, ramulis cortice rubro obtectis, juvenilibus dense lepidotis deinde glabris. Folia elongato-ovata, apice acuta, basi subcordata, utrinque plus vel minus dense lepidota sed lepidibus distinctis margine integris; nervis praecipuis ca. 10 in utroque latere, supra prominulis subtus elevatis; petiolo 1.5 cm. longo, laminis 11-17 cm. longis,

4.5–6.5 cm. latis. Paniculae terminales et in axillis superioribus dispositae. foliis ca. triplo breviores. Epicalyx cum pedicello 2 mm. longo 4 mm. longus. Petala oblonga, 3 mm. longa, intus glabra, extus stellato-vel lepidoto-pubescentia, mox decidua. Annulus pilorum alborum inter petala et tubum stamineum petala aequans. Columna staminea brevis. Capsula dense lepidota, 2 cm. longa. Semina margine pilis albis vel fulvis longis obsita.

NEW GUINEA (North Coast): Narakapoor Road near Yalu, in rain-forest, Forest Survey Company No. 2 *N. G. F.* 255 (fl. buds), July 1944 (large tree 120 ft., buttressed up to 6 ft., bark light gray-brown, $\frac{1}{2}$ inch thick, decorticating in small papery flakes); Yalu, in rain-forests on flats, J. Cavanagh *N. G. F.* 864 (tree 70 ft., fluted up to 15 ft., crown sparse, leaves insect-eaten, bark fibrous in layers, wood white, light, soft to cut); Aiyura, alt. 6000 ft., L. S. Smith *N. G. F.* 1053 (tree 130 ft., buttressed and channelled up to 8 ft., bark $\frac{1}{2}$ – $\frac{3}{8}$ in. thick or slightly more, fibrous, layered, the layers peeling in fibrous strips, wood whitish, fairly soft with conspicuous ripple marks; native name: *Iwo*); Lae, in rain-forest near sea-level, Dadswell, Smith, & White *N. G. F.* 1693 (TYPE: flowers and young capsules), July 1944 (tree 140 ft., 90 ft. clear bole, buttressed and channelled up to 10 ft., bark grayish, longitudinally fissured, shed in soft, crumbly flakes, wood whitish, sapwood not defined); Boana,* *Clemens* 41728, May–Nov. 1940, alt. 750–1350 m. (tall tree, \pm 65 cm. diameter; flowers dark wine-color).

The nearest affinity with the present genus seems to be *Camptostemon* Masters, but from the description of this given by R. C. Bakhuizen van den Brink in his "Revisio Bombacacearum" (Bull. Jard. Bot. Buitenz. III. 6: 161–232. 1924) the two genera can be distinguished as follows:

Epicalyx irregularly sinuate; calyx irregularly 3-lobed; petals persistent, connate at the base to the staminal tube.....*Camptostemon*.
Epicalyx 5-dentate; calyx equally 5-lobed; petals deciduous, free from the staminal tube.....*Papuodendron*.

Bakhuizen, l. c., mentions the doubtful position of *Camptostemon* and suggests that it may belong to the Hibisceae rather than the Bombacaceae, but I think that the staminal column, antheriferous at the top, places it definitely in the latter group. Apart from this character, the differences between the two groups are not very marked, and in my opinion the Bombacaceae is better retained as a tribe of the Malvaceae than accepted as a distinct family.

Dr. H. E. Dadswell, who has examined the wood of this new species, states in a letter to me that "*Papuodendron*, from the wood structure point of view, fits the tribe Hibisceae rather than the tribe Durioneae. All the genera listed in the Durioneae in Edlin's classification of the Bombacaceae that we have in our collection or that we can get information on have a special anatomical feature in the medullary rays called 'tile cells.' These tile cells do not occur in the members of the tribe Hibisceae and do not occur in *Papuodendron*. Unfortunately, we do not have specimens of *Camptostemon* to make comparisons. It would be very interesting to see whether tile cells occur in this genus."

* Specimen in the herbarium of the Arnold Arboretum, duplicate in the herbarium of the University of Michigan.

EXPLANATION OF THE PLATE

Papuodendron lepidotum. Top, branchlet bearing inflorescences with flower-buds (from type collection). Bottom left, branchlet with very young fruits (from type collection). Bottom right, dehiscent fruits (from *N. G. F.* 1053, from Aiyura).

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